Remarks

Claims 1-10 are currently pending in the patent application. Claims 6-10 have been withdrawn.

The Office Action dated October 25, 2007 listed the following rejections: claims 3-4 stand rejected under U.S.C. § 112(1); claims 1-5 stand rejected under U.S.C. § 112(2); and claims 1-5 stand rejected under U.S.C. § 103(a) over Sugiura *et al.* (U.S. Patent No. 6,150,686).

Applicant respectfully traverses the § 112(1) rejection of claims 3-4 because the subject matter of these claims is fully supported by Applicant's specification. Applicant submits that support for claim limitations directed to the first part of the trench groove being completely filled with the first insulating material can be found, for example, in Paragraph 0016 of Applicant's specification. More specifically, Paragraph 0016 states that the first part can be completely filled with the first insulating material, which means that only first insulating material is present in a cross-section taken through the first part of the trench groove in a plane parallel with the plane of the buried layer. Regarding the Examiner's assertion that claim 1 reads on the embodiment of Figure 6, Applicant submits that claim 1 is a generic claim that covers more than simply the embodiment of Figure 6. Accordingly, the § 112(1) rejection of claims 3-4 is improper and Applicant requests that it be withdrawn.

Applicant respectfully traverses the § 112(2) rejection of claims 1-5 because these claims do particularly point out and distinctly claim that which Applicant regards as the invention. Applicant submits that it would be clear to one of skill in the art that the "characterized in that" limitation is directed to the liner in at least a first part of the trench groove that is substantially in line with the upper and lower surfaces of the buried layer having a thickness that is larger than a thickness of the liner in a second part of the trench groove (*i.e.,* the thickness of the liner in the first part is larger than the thickness of the liner in the second part). In an effort to facilitate prosecution, Applicant has amended claim 1 to more expressly recite that which would have been clear to one of skill in the art. Regarding the Office Action's assertion that claim 5 fails to further limit the structure of claim 1, Applicant submits that claim 5 contains aspects which further limit claim 1 including, for example, at least one semiconductor device present on the surface of the slab of

semiconducting material. Accordingly, the § 112(2) rejection of claims 1-5 is improper and Applicant requests that it be withdrawn.

Applicant respectfully traverses the § 103(a) rejection of claims 1-5 because the cited portions of the Sugiura reference do not correspond to numerous aspects of the claimed invention. Applicant previously presented various arguments regarding the lack of correspondence between Sugiura and the claimed invention in the RCE dated July 3, 2007 which is hereby incorporated in its entirety by reference. Applicant submits that the Examiner failed to adequately address any of Applicant's previous arguments as required. *See, e.g.,* M.P.E.P. § 707.07(f) ("Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it."). In the instant Office Action, the Examiner maintains the Section 103(a) rejection of claims 1-5 based upon the same portions of the Sugiura reference without responding in substance to any of Applicant's previous arguments concerning the lack of correspondence between these portions of Sugiura and the claimed invention. The following discussion particularly points out the lack of correspondence between the cited portions of the Sugiura reference and the claimed invention.

Regarding claim 1, the cited portions of Sugiura do not correspond to aspects directed to the thickness of the liner in the first part of the trench groove, which is substantially in line with the upper and lower surfaces of the buried layer, being larger than the thickness of the liner in the second part of the trench groove, which is below the first part. The cited portions of the Sugiura reference do not teach that silicon oxide film 14 is substantially in line with the upper and lower surfaces of n-buried layer 18 as in the claimed invention. *See, e.g.,* Figure 1 and the related discussion. Accordingly, the § 103(a) rejection of claims 1-5 is improper and Applicant requests that it be withdrawn.

Regarding claim 2, the cited portions of the Sugiura reference do not correspond to aspects directed to the thickness of the first insulating material in the first part of the trench groove being larger than the thickness of the first insulating material in the third part of the trench groove, which is above the first part. Claim 2 requires that there be first insulating material in the third part of the trench groove. Irrespective of the Office Action's continued assertion that zero corresponds to a thickness, the cited portions of Sugiura do not teach a liner/layer of insulating material on the portion of the wall of trench

12 that is above oxide film 14 as required by the claim limitations. The Office Action asserts that the thickness of the liner/layer of insulating material on the walls of trench 12 above oxide film 14 has "zero thickness". Applicant agrees with the Office Action's interpretation that the cited portions of the Sugiura reference do not teach any insulator above the silicon oxide film 14. As such, there is no correspondence between the claim limitations which requires that there be first insulating material in the third part of the trench groove, which is above the first part. Therefore, the § 103(a) rejection of claim 2 is improper and Applicant requests that it be withdrawn.

Regarding claim 3, the cited portions of the Sugiura reference do not correspond to aspects directed to the first part of the trench groove being completely filled with the first insulating material. The Office Action improperly bases the rejection on the assertion that the thick part of oxide film 14 is completely filled with the first insulating material. However, claim 3 requires that the first insulating material completely fill the first part of the trench groove (*i.e.,* the part of trench 12 that separates n-buried layer 18). Figure 1 of Sugiura clearly shows that the part of trench 12 that separates n-buried layer 18 is filled with an electrode 15. More specifically, there is no portion of trench 12 that is completely filled with the first insulating material (asserted to be oxide layer 14). *See, e.g.,* Figures 1 and 2. Accordingly, the § 103(a) rejection of claim 3 is improper and Applicant requests that it be withdrawn.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the attorney overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

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Respectfully submitted,

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